

## SECTION 3

### **SECTION III — Cost Proposal**

Please refer to the sealed envelope in the Technical Proposal.

**COPY**

**Technical Proposal for** **PART 6**  
**GDOE E-Rate Network (GENET) Project**  
IFB No. FBE-003-2003

Submitted by M.E. International, Inc.  
SPIN# 143020404

January 28, 2003 (Tues.) 10:00am GUAM  
GDOE Supply Management Office  
2nd Floor, Manuel F.L. Guerrero Building

**DEPARTMENT OF EDUCATION  
GOVERNMENT OF GUAM  
FBE 003-2003  
SPECIAL REMINDER TO PROSPECTIVE BIDDERS**

Bidders are reminded to read the Sealed Bid Solicitation Instructions and General Terms and Conditions attached to a Bid Invitation to ascertain that all of the following (see boxes checked) requirements of the bid are submitted in the bid envelope in single at the date and time for bid opening.

- ☒ 1. Bid Submission Form
- ☒ 2. Bid Bond: A bid Bond (or Proposal Guarantee) is only required for Part 6 Internal Connections – School Wiring Section of the IFB. All other Parts of the Bid do not require a Bid Bond. Bid Bond in the form of Cashier's Check, Letter of Credit, or Surety bond. Surety bond, to be valid, must be accompanied by:
  - a. Current certificate of Authority issued by the Insurance Commissioner.
  - b. Power of Attorney issued by the Surety to the Resident General Agent.
  - c. Power of Attorney issued by two (2) major officers of the Surety to whoever is signing on their behalf.
- ☒ 3. Affidavit of Disclosure of Major Shareholders.
- ☒ 4. Statement of Qualifications (as prescribed here-in), as well as experience and identity (name and functional capacity of lead technical staff member).
- ☐ 5. Bid Sample to be furnished by the Bidder to show the characteristics of the item offered in the bid.
- ☒ 6. Product Brochures/Descriptive Literatures information available in the ordinary course of business which shows the characteristics, construction, or operation of an item and enables the Department to consider whether the item meets its needs.
- ☐ 7. Copy of Material Safety Data Sheet (MSDS) is required for the following item numbers only:
- ☒ 8. Copy of Current: ☒ Business License

**Note:** Bidders are cautioned that the Government will not consider for award any offer submitted by a Bidder who has not complied with the Guam Licensing Law. Specific information on licenses may be obtained from the Guam Department of Revenue and Taxation.

[X] 9. Copy of Current [X] Contractor's License

A General Contractor's License is required only for Part 5 Internal Connections - School Wiring Section of the IFB. All other Parts of the Bid do not require a General Contractors License.

[X] 10. OTHER:

A) A Pre-Bid Conference is scheduled for 10:00am Friday November 29, 2002 at the Research, Planning and Evaluation Conference Room, Manuel F.L. Guerrero Building, Second Floor. Hagatna, Guam.

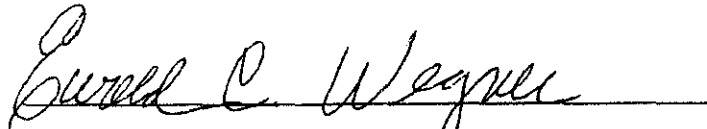
B) A Mandatory Tour of Sites for Part #5 (Internal Connections - School Wiring ONLY) is scheduled for December 2-6, 2002. All Prospective Bidders are to meet at the Office of Supply Management (Issuing Office) at 9:00am beginning on Monday, December 2, 2002.

**This reminder must be signed and returned in the Technical bid envelope. Failure to comply with requirements will mean disqualification and rejection of the bid.**

I, Ewald C. Wegner, authorized representative of M.E. International, Inc.

acknowledged receipt of this special reminder to prospective Bidders together with Bid

Invitation/Number FBE 003-2003 this date of January 28, 2003, ~~XXXX~~ 2002.



Bidder's Representative's Signature

# GUAM DOE "Erate" Network (GENET) Project

IFB No. FBE 003-2003

## Part 6 Network Installation Management Services

### Unpriced Technical Proposal

Submitted By:

M.E. International – SPIN# 143020404

#### **I. Introduction**

The Guam Department of Education (GDOE) has issued an Invitation for Bid (IFB) for Network Installation Management Services (NIMS). The IFB seeks to acquire services to assist the GDOE in the management of the installation of school wiring project.

#### **II. Background**

The Guam Department of Education (GDOE) has issued an Invitation for Bid (IFB) for Network Installation Management Services (NIMS). The IFB seeks to acquire services to assist the GDOE in the management of the installation of school wiring project and its integration with the telephone systems, video teleconferencing systems, and existing Wide Area Network.

The IFB was issued by the GDOE in accordance with GDOE Procurement rules and the competitive bid requirement of the Schools and Libraries Program, established by the Federal Communications Commission in accordance with the Telecommunications Act of 1996.

The IFB specifically called for:

- "1. Guam DOE requires Network Installation Management Services for the ATM/LAN network to guarantee that all of the parts from the various contractors work together.
2. The Network Installation Management Services (NIMS) shall work closely with the Guam DOE Technical Team and Procurement Officer to ensure that the vendors complete work conducted under the Erate awarded contracts.
3. The NIMS shall coordinate and manage the installation of the equipment, and prepare a final design based on the selection of network capacity. The final design will include the final configurations of equipment to match the services, based on the contracts for equipment.
4. The NIMS shall prepare a Work Plan with the vendors and Guam DOE Team.
5. Deliverables: site inspection log, progress payment recommendations and approvals, testing and result reports, monthly progress reports.
6. The NIMS shall conduct and/or monitor testing of all network components shall advise the Guam DOE Erate Team of any problems and issues that arise during the project.

7. The NIMS shall have experience in managing large-scale, complex networking projects including both LANS and WANS.
  - a. The NIMS shall have experience in managing and implementing LAN and ATM technologies, including, but not limited to ATM, FR, Router, and switches.
  - b. The NIMS shall have experience in managing and implementing electronic mail servers.
  - c. The NIMS shall have experience and knowledge of telecommunications techniques.
8. The Bidder shall submit a resume of experiences of key staff member(s).
9. The Bidder shall submit a cost proposal on the Part 6 Bid Proposal Form - Network Installation Management Services."

**A. Background of Overall Project**

The background of the GENET is best summarized by the GDOE in the IFB, which states:

"In an effort to improve learning by integrating technology in the schools, the Guam Department of Education is seeking funding from the Schools and Libraries Division of the Universal Service Administrative Company (USA). USAC was established by the U.S. Federal Communications Commission (FCC) to administer universal service programs for both schools and libraries and for health care providers in accordance with the Telecommunications Act of 1996.

The Guam Department of Education seeks to acquire leased telecommunication services and networking equipment for the Public Schools. This will enable the estimated 32,000 K-12 public school students to have access to voice telecommunications, the Internet, a GDOE Intranet, and compressed video connections over the Internet. The Guam Department of Education (GDOE) has initiated the implementation of the Guam Education Network (GENET). The GENET will provide a telecommunications infrastructure to meet the needs of students, teachers, and administrators. The plan proposes a Local Area Network that will support Internet access, distance learning, and training within Guam, and will interconnect with other programs in the region through a connection to PEACESAT. The cross-connection will enable a link to the Pacific Resources for Education and Learning, the Commonwealth of the Northern Marianas Islands, and other school districts and educational institutions in the region."

Through the Erate Program of the Telecommunications Act of 1996, the GUAM DOE seeks to implement a fully operational network that meets their voice, data, and video teleconferencing needs. The Erate program is seeking to implement, in SLD Year 6, school wiring, voice telephony, video teleconferencing, and network integration.

## B. Network Plans

MEI understands the design of the GDOE GENET. The network design calls for a WAN and School Wiring that have the following characteristics.

### School Wiring

The School Wiring specifications are extensive and calls for:

- Installation of a cable plant at each school.
- The cabling plant will include:
  - A Main Distribution Frame (MDF) at a location in the administrative office of the school.
  - Multimode Fiber, Cat-3, and coaxial video cabling from the MDF to an Intermediate Distribution Frame (IDF).
  - Distribution Cat-5 cabling from the IDF to the room outlets.
  - Distribution telephone cabling from the IDF to each classroom and administrative location.
  - The room outlets include Cat-5 based cabling, voice cabling to punchdown blocks, and to video coaxial cabling.
- The School Wiring Specifications are extensive and cover all the voice, Cat-3, Cat-5, coaxial cable, and multimode fiber optics cabling.
- The cable plant will have both underground and outside conduits.
- The final design for the cable plant and vendors for cabling will be evaluated by the GDOE through the competitive bidding process.

### Local Area Networks/School Wiring

- The Local Area Network and School Wiring will use Cisco routers, a combination of Cisco and Linksys switches for IP based data communications.
- Selected classrooms and offices will be wired for voice, data, and video connections.
- The GDOE will be evaluating a PBX vendor that would be able to use the infrastructure for voice communications. The final design and selection of the vendor for the PBX system will be made by the GDOE through this competitive bidding process.

### Wide Area Network

- The LAN and internal school wiring network will interface to a Wide Area Network.
- The advanced network technologies that will be deployed include Asynchronous Transfer Mode (ATM) and Internet Protocols (IP) to all schools that run largely on a fiber optics network.
- The GDOE fiber network uses Single-Mode (SM) fiber on the island for high-speed connections.
- The network connections enable voice, data, and video telecommunications, although these connections are outside the scope of the project.

MEI also understands the importance of the integration issues and the need for GDOE to have some assistance in managing the systems and network integration.

HIGHLIGHT: MEI very clearly understands the design, issues, approach, and integration management required. MEI also understands the difficulties that will occur in a project of this magnitude. MEI understands that vendors may seek to undertake scope control and/or other actions that could increase costs to the GDOE. MEI has the knowledge of the full technologies (including voice PBX, Centrex, tariffs, ATM, IP, video teleconferencing, and so on) that are planned for use by the GDOE.

### III. MEI Proposal

ME International is uniquely qualified to provide the Network Installation services to the GDOE.

The MEI Team has:

- Extensive experience in project management of Local and Wide Area Networks and Cabling in governmental settings.
- Direct and current experience with the type of network design and network technologies to be used in the GDOE.
- Success in completing major ATM and IP data and compressed video telecommunications networks in American Samoa, Guam, Hawaii, and the United States that are similar to the Erate network in planned by the GDOE.
- Success in completing major cabling and wireless projects.
- Extensive knowledge and understanding of the Erate local area network issues, including transmission, power, operational, and equipment problems.
- A thorough technical and operational knowledge of the networks and technologies through its ongoing management and maintenance of networks that are identical to those being used by the GDOE.
- A Team that is committed to ensuring that the network functions and meets the needs of the GDOE.

MEI and Team looks forward to working with the GDOE on this exciting project that will implement school wiring in the public schools in Guam. MEI and Team strongly supports the efforts by the GDOE to provide Internet access to students, faculty, and administrators; provide support services to teachers (e.g. telephones), and establish a distance learning program infrastructure. At the same time, MEI understands the difficulties of the GDOE as it recovers from the typhoons and budgetary problems, and works with a staffing shortage.

#### A. Point by Point Response by MEI to the Requirements of the GDOE

- "1. Guam DOE requires Network Installation Management Services for the ATM/LAN network to guarantee that all of the parts from the various contractors work together."

The MEI understands the complexity of this project. MEI understands the need of GDOE to ensure that the following major project elements work together:

**School Wiring** - The vendors will need to implement a school wiring system that includes fiber optics, Cat5, Cat3, coaxial cabling, and other technologies.

**Telephone Systems** – The GDOE will be selecting vendors to provide PBX telephone systems to the schools.

**Existing LAN-Wide-Area Network Connection** – The GDOE will need to ensure that the School Wiring and Telephone Systems interconnect to the network.

MEI is positioned and will provide project management and technical support to the GDOE to help ensure that the work of the vendors are done well and are integrated.

- "2. The Network Installation Management Services (NIMS) shall work closely with the Guam DOE Technical Team and Procurement Officer to ensure that the vendors complete work conducted under the Erate awarded contracts."

The MEI will work report and provide all services to the GDOE Team, including the Erate Team and Procurement Officer. MEI fully understands that the GDOE is the official agency and that MEI cannot and will not direct the contractors to undertake tasks. All work of GDOE contractors will be directed by the GDOE and that any an all instructions will come from the GDOE Erate Team that will include the GDOE Procurement Officer, the GDOE Capital Improvements officer, the School Principals, and others, as appropriate.

The Work Plan to ensure that the vendors complete the work under the Erate awarded contracts is described in this proposal.

- "3. The NIMS shall coordinate and manage the installation of the equipment, and prepare a final design based on the selection of network capacity. The final design will include the final configurations of equipment to match the services, based on the contracts for equipment."

The MEI will work closely with the GDOE Team, including the Erate Team and Procurement Officer. MEI will also work with the Capital Improvements coordinator and the School Principals, as appropriate. The MEI understands that the work involved will include the school wiring contractors, telephone system providers, equipment providers, and video teleconferencing service providers to be determined and selected by the GDOE.

- "4. The NIMS shall prepare a Work Plan with the vendors and Guam DOE Team."

The MEI will prepare a work plan with the GDOE Team. The Work Plan will be based on an approach that insists that project planning and scheduling by the vendors, in accordance with the specifications, is conducted. The work effort is summarized below.

Highlights: MEI understands that this project is intended to provide support to the GDOE -- not only for school wiring, but also to ensure that the wiring is integrated with the existing LAN and WAN equipment and the proposed voice systems and video teleconferencing and cable TV systems. This is what the MEI believes may differentiate MEI from other companies.

- "5. Deliverables: site inspection log, progress payment recommendations and approvals, testing and result reports, monthly progress reports."

The MEI will provide an inspection log, prepared with the GDOE CIP and Erate Teams, Testing reports, and independent monthly progress reports that highlight progress and areas of concern with the vendors and their reports.

- "6. The NIMS shall conduct and/or monitor testing of all network components shall advise the Guam DOE Erate Team of any problems and issues that arise during the project."

The MEI will conduct testing of the school wiring, PBX, video teleconferencing and other equipment and service that are provided to the GDOE. The nature of the tests and other services are documented below.

- "7. The NIMS shall have experience in managing large-scale, complex networking projects including both LANS and WANS.
- a. The NIMS shall have experience in managing and implementing LAN and ATM technologies, including, but not limited to ATM, FR, Router, and switches.
  - b. The NIMS shall have experience in managing and implementing electronic mail servers.
  - c. The NIMS shall have experience and knowledge of telecommunications techniques."

The MEI Team has direct and extensive experience in network cabling of voice/data/video; network integration planning; testing of transmission systems; monitoring of transmission systems; and network integration. In addition, the MEI Team currently manages several networks the size and complexity of the GENET network. References have been provided. See below. More references can be provided.

- "8. The Bidder shall submit a resume of experiences of key staff member(s)."

The key members of the team are documented below. The members have vast and direct experiences in working with the full range of required experience: network planning, network cabling, testing, integration of voice/data/video, and project management.

- "9. The Bidder shall submit a cost proposal on the Part 6 Bid Proposal Form - Network Installation Management Services."

#### B. Specific Project Management Objectives

The following describes the background and needs of the project for network installation and management services.

Based on the IFB, there appears to be several specific project management objectives of the NIMS during the Year 6 Implementation of the Erate Network.

##### 1. School Wiring

A major objective of the NIMS will be to ensure that the work performed by GTE Pacifica meets the specifications for the school wiring issued by the GDOE.

The School Wiring specifications are contained in IFB. The School Wiring Contractor (SWC) will be selected by the GDOE. The specifications do not need to be repeated here.

As the specifications for the voice, data, video and cabling specifications are extensive, GDOE requires assistance to monitor the work of the SWC and its integration with the existing WAN network, telephone system, video systems, and video teleconferencing network.

The purpose of the monitoring would be to inform the GDOE if there are any issues that are outstanding with the SWC and to perform testing to ensure compliance and performance according to specifications.

GDOE seeks assistance to ensure that the work performed by SWC is verifiable and integrated with the work to be performed by the NEP.

2. Network Equipment Provider

A major objective of the NIMS will be to ensure that the work performed by NEP is designed to meet the objectives of a WAN/LAN data and video network for the GDOE. This will require some planning and knowledge of the network technologies that are used.

For Year 6, the GDOE appears to be implementing additional video teleconferencing systems that will use both the LAN and WAN networks. The existing WAN network uses ATM and IP routers over SM fiber. The SWC will need to interconnect and demonstrate the interconnections.

MEI will work to ensure that these technologies are integrated.

3. Network Integration

There will be some network integration issues with Network Equipment Provider and the School Wiring Contractor.

- The network may require some redesign and reconfiguration based on the optimal location of Erate equipment. For example, the MHS NOC may have to be relocated based on whether a school qualifies for a discount for equipment.
- The cabling plant will need interface with the equipment provided by the NEP.
- Switches will need to be installed by the NEP and interfaced to the cabling plant.
- The cable plant will have both underground and outside conduits.

GDOE requires assistance to monitor the work of both the NEP and SWC, and to ensure that the resulting system provides the level of services required within the specifications provided.

4. Network Planning for PBX systems

The GDOE is planning to implement PBX voice telephony systems. These systems will need to be integrated with both the SWC and NEP. The MEI will provide and include the planning for PBX systems into the overall process.

5. Network Planning for Video Teleconferencing Services

The GDOE has issued a bid for video teleconferencing based services. The service will need to be integrated and also tested through the work of the SWC and NEP.

The MEI understands the interconnections and complexity of integrating these technologies and services, and more importantly, has the expertise to assist the GDOE to manage the contractors that will be involved.

#### IV. Approach

The following describes the recommended approach that will be used by MEI to ensure that the installation of the School Wiring and WAN network is done within specifications. This recommended approach will be discussed and finalized with the GDOE Erate Team (including Procurement and CIP) prior to meeting with vendors.

- A. Work Plan - The following work plan will be utilized to facilitate the objectives and tasks outlined in the GDOE Scope of Services and also satisfy the deliverables required by the IFB.
  - 1. MEI will conduct an initial Design Review for the entire GDOE Network Project to assess the scope of work for the Project as well as to ensure that the Project design standards meet current industry practices.
  - 2. MEI will host an initial design and project implementation review meeting between all parties involved
    - i. Attendees
      - (1) GDOE Technical Team
      - (2) Procurement Officer
      - (3) GDOE CIP Officer
      - (4) MEI
      - (5) Contractors Representatives
      - (6) Additional GDOE Attendees
    - ii. MEI, through GDOE, will request each contractor, the SWC and NEP, to present their portion of the design and describe how it relates to the overall project.
    - iii. MEI will review each requirement in the specification and review with the vendor how it intends to fulfill the specification.
    - iv. MEI will review the nature of the tests that will be conducted to ensure that the specifications are adhered to, especially for the SWC.
      - (1) Since the specifications for the cabling in the IFB, there is no need to repeat the specifications here.
      - (2) MEI will clarify the type of tests that will be conducted. Once these have been confirmed, then, these will be documented for the record.
      - (3) A common checklist will be established for each site, beyond the forms that will be used for project reporting, that are agreed to by the SWC and NEP.
      - (4) MEI will check and verify that the tasks have been completed by the School Wiring Contractor, the Network Equipment Provider, and the VTCP.
  - 3. MEI will discuss the strategic direction for the Network with GDOE Representatives and ensure that the current installation supports this goal.

B. Time Line

MEI will assist the GDOE to develop a Project Management Timeline for the GDOE GENET School Wiring Project, Network Equipment (e.g. video teleconferencing), Telephone and Video Teleconferencing services that includes major milestones, duration of tasks, completion dates, and interactions or dependencies with other tasks.

1. Each contractor should already have input for their respective portion of the project.
2. Upon initial contract award, each contractor, through GDOE, will be asked to provide a copy of their project management worksheet to MEI as well as to bring a copy of the worksheet to the initial meeting for discussion.
3. MEI will review each contractor's project management worksheet individually then integrate them into a combined worksheet for the GDOE project.
4. MEI will conduct a meeting between GDOE Officials and contractors to agree on a payment scheme based on the projected work tasks outlined in the Project Management Timeline.
  - i. Either a dollar value or percentage of completion will be assigned to each subtask on the Project Management Timeline.
    - (1) This will reduce the amount of discrepancies when problems arise.
    - (2) These values will be estimates based on zero complications and delays encountered.
  - ii. Vendors will confirm completion of tasks during the biweekly meetings.
    - (1) MEI will recommend payment based upon:
      - (a) Successful track record of Quality Control Checks.
      - (b) Agreed payment schedule in Project Management Timeline (Above).
  - iii. MEI will conduct Quality Control Checks to ensure progress is being made on the GDOE Network Installation Project (See below for procedure).
  - iv. If discrepancies in payment arise:
    - (1) By default MEI will recommend payment for time spent if a reasonable alternative or solution can be utilized with zero cost to GDOE.
    - (2) The contractor should have the Problem Reporting Sheet completed which describes the problem in detail, circumstances, recommended alternatives, and associated costs.
    - (3) MEI will review the problem at the biweekly meeting and discuss alternatives with the contractors.
    - (4) MEI will investigate additional alternatives to solve the problem while still meeting the objectives of the GDOE Network Installation Project and keeping additional costs at or close to zero.

- (5) MEI will investigate additional alternatives to solve the problem while still meeting the objectives of the Strategic Direction for the GDOE Network and keeping additional costs at or close to zero.
- (6) MEI will consult level two technical representatives in Hawaii, via video teleconference (VTC) to explore further alternatives.
- (7) If all zero cost alternatives have been exhausted and the remaining alternatives have associated costs, MEI will recommend the best solution based on the following prioritized order:
  - (a) Completion of the GDOE Network Installation;
  - (b) Minimize cost;
  - (c) Strategic Direction for GDOE Network.
- v. MEI will present the recommendation to the GDOE Technical Team and Procurement Officer during a special resolution meeting.
- vi. The final decision for the solution (with associated costs) will be made by the Procurement Officer with input from MEI and the GDOE Technical Team.
- vii. MEI will document the results.

C. Project Management Meetings

- 1. MEI will conduct weekly meetings with the Contractors and GDOE Erate Team to maintain a high level of communication between contractors.
- 2. Initial PM Meeting - MEI will conduct an initial meeting between all participants to introduce the players, define each participant's roles, and introduce the procedures for the biweekly meetings.
  - i. Members include:
    - (1) GDOE Technical Team
    - (2) Procurement Officer
    - (3) MEI
    - (4) Contractor Representatives
    - (5) Additional GDOE Representatives
  - ii. MEI will generate minutes for the meeting
- 3. Biweekly Status Meeting - Meetings will be held twice a week via video teleconferencing to monitor the status of each subtask as well as address any problems that may arise.
  - i. Attendees
    - (1) MEI (mandatory)
    - (2) Contractor Representatives (mandatory)
    - (3) GDOE Technical Team (optional)
    - (4) Procurement Officer (optional)
    - (5) Additional GDOE Attendees (optional)
  - ii. Agenda
    - (1) MEI will present the Project status according to the previous meeting's report.

- (2) Contractors responsible for Critical Path tasks will present the current status.
    - (a) On time?
    - (b) Planned completion date
    - (c) Impact "from" other tasks
    - (d) Impact "to" other tasks
  - (3) Problems encountered shall be addressed.
    - (a) Critical path items
    - (b) Non - critical path items
  - (4) The contractor, using a MEI developed Problem Reporting Sheet shall document each problem prior to the biweekly meeting. The following items shall be required:
    - (a) Contractor
    - (b) Date
    - (c) Description of Problem
    - (d) Critical Path - yes/no
    - (e) Problem related to other contractor?
    - (f) Problem related to other tasks?
    - (g) Problem resolved?
    - (h) Expected resolution date
    - (i) Any foreseeable impact to other tasks?
  - (5) Contractors present status of remaining tasks
    - (a) Projected completion date
    - (b) Foreseeable problems
    - (c) Confirm interactions with other tasks/contractors
  - (6) MEI will present results from the previous Quality Control checks.
  - (7) MEI will coordinate the upcoming Quality Control checks.
  - (8) Contractors present tasks that will be submitted for payment by GDOE.
  - (9) GDOE Technical Team shall have the opportunity to provide feedback.
    - (a) Modifications to timeline
    - (b) Requests from GDOE officials for modification
    - (c) Feedback on progress
  - (10) The Contractors and MEI will generate minutes for the meeting.
4. Project Closeout Meeting - A Project Closeout meeting between all participants will be held to officially close out the GDOE Network.
- i. Members include:
    - (1) GDOE Technical Team
    - (2) Procurement Officer
    - (3) MEI Representatives
    - (4) Contractor Representatives
    - (5) Additional GDOE Representatives
  - ii. Agenda
    - (1) MEI will present the final version of the Project Management timeline with all completed tasks.
    - (2) MEI will discuss any outstanding tasks that cannot be completed within the timeframe for unforeseen circumstances.

- (3) MEI will propose recommended alternatives to resolve the problem.
- (4) MEI will address any impact these outstanding items may have on the network until they are resolved.
- (5) MEI will generate minutes for the meeting.

D. Site Inspections

- 1. MEI will conduct site inspections at appropriate times to review the work of the contractors. The site inspections will be coordinated and supportive of the reviews by the Guam Erate and CIP personnel.
- 2. MEI will utilize the following test equipment for the Quality Control Checks
  - i. Firebird T-1 Tester
  - ii. LAN Analyzer
  - iii. MM Fiber Tester
  - iv. Single Mode Fiber Optics Power Meter a and Light Source (with SC Interface)
  - v. Optical Time Domain Reflectometer (OTDR) for single mode and multimode fiber and SC and ST Interfaces
  - vi. Power meter for coaxial cable
- 3. Cat5 and Fiber Optic cabling. MEI will:
  - i. Inspect the cables for proper termination.
  - ii. Ensure cables are neatly run from the patch panels through conduit (where necessary) to their destination.
  - iii. Ensure installation meets NEC codes.
  - iv. Ensure installation meets building codes.
  - v. Ensure installation meets outdoor plant codes.
  - vi. Utilizing a Cat5 cable tester, verify that the tested cable meets Cat5 specifications.
  - vii. Utilizing a fiber optic light source and Power Meter, verify that fiber optic cables meet installation specifications.
  - viii. If the fiber optic cables do not meet specifications, conduct further investigation into the cause of the failure with a Optical Time Domain Reflectometer (OTDR).
  - ix. For one percent of the tested fiber optic cabling that meet specifications, double check the test using the OTDR.
  - x. Inspect installation enclosures for:
    - (1) Environment, temperature, humidity
    - (2) Power
    - (3) Possibilities of flood, earthquake damage
    - (4) Minimize user access to area
  - xi. MEI will document the results with the date and location on the LAN Data Sheet.
- 4. Video cabling
  - i. MEI will test the 10% of the video cabling and end-point cabling to ensure that they conform to the specifications.
  - ii. MEI will visually inspect the cabling to ensure that it conforms to specifications.
- 5. Telephone Wiring in Schools

- i. MEI will test 15% the school classroom wiring for voice.
- ii. MEI will use a tone-tester and phone on other end to test the voice cabling.
- iii. MEI will visually inspect the voice wiring to ensure that such wiring conforms to specifications.

6. Wide Area Network

- i. MEI will assist the GDOE to ensure that the LAN interfaces with the Wide Area Network already implemented.
- ii. MEI will document the results on the WAN Data Sheet, including cable number, equipment serial number, location, and date.

E. Status Report

- 1. MEI will generate a monthly status report for the GDOE Network Project and submit copies to the GDOE Technical Team, the GDOE Procurement Officer, and the contractors. The Report will include:
  - i. Compilation of the results of the two biweekly meetings.
  - ii. Compilation of previous months Problem Reporting Sheets.
  - iii. Compilation of previous months Quality Control Checks.
    - (1) Cabling
    - (2) LAN
    - (3) WAN
- 2. MEI will provide GDOE with a final report for the project that includes:
  - i. Summary of the Initial Design Review
  - ii. Summary of the GDOE Network Project Management Timeline
  - iii. Summary of the GDOE Network Installation
  - iv. Final Assessment of the completed GDOE network and where it stands against the Strategic Direction
  - v. Minutes of Initial, Biweekly, and Final Closeout Meetings
  - vi. Network Drawings
  - vii. Equipment Configurations
  - viii. Copies of Site Inspection Logs
  - ix. Copies of Site Inspection data Sheets
  - x. Copies of submitted Problem Reporting Worksheets with resolution

**V. Qualifications and Experience**

ME International is well qualified and uniquely positioned to respond to the Part 6: Network Installation Management Services of the GUAM DOE "Erate" Network. The MEI Team has:

- Directly provided project management and technology integration services for an Erate network that had multiple vendors, complex environments, scheduling problems with schools, interpretation problems with specifications, testing problems, and human resource shortages.

- Worked closely with the educational agency, the vendors, and other government reviewers, and completed the project successfully.
- Successfully undertaken and completed major telecommunications networks similar to the one proposed for implementation by GDOE in the Pacific and in Hawaii.
- Direct and current experience in Network Cabling and Transmission Systems, Planning and Project Management, LANs, WANS, and associated technologies that will be used by the GDOE.
- Extensive experience in cable and telecommunications transmission engineering.
- Designed and implemented like systems in Guam, Hawaii, and in American Samoa.
- A Team that is familiar with the design and implementation issues faced by the Guam Department of Education, including the problems of working with multiple vendors and integrating many technologies.

#### A. Qualifications of Company

M.E. International, Inc. SPIN Number 143020404, is a 24-year-old telecommunications networking and information technology company based in Guam. M.E. International, Inc., through its Guam subsidiaries, Marianas Electronics & SolCom and its CNMI branch, Marianas Electronics - Saipan, will serve as the lead systems integrators for Part 10 of the CNMI E-Rate Project.

The M.E. International, Inc. team, developed and implemented the CNMI E-Rate local and wide area network and thus has a significant advantage over other prospective bidders in providing CNMI PSS with quality and cost effective network management.

The team has the experience of implementing several other E-Rate networks in the Pacific Islands including the Guam Department of Education and the American Samoa Department of Education Networks.

The team is made up of highly experienced systems and network integrators. M.E. International, Inc. is comprised of specialists in telecommunications and information technology and is wholly capable of maintaining the PSS E-NET Project.

Our firm is committed to working in the Pacific region and has the combined resources to provide a cost-effective solution to meet the needs of the Public School System of the Commonwealth of the Northern Marianas Islands.

M.E. International, Inc. has the business and technical qualifications to accomplish the job, and is able to provide all of the required services expeditiously and has complied with all laws and regulations relative to procurement in previous and existing projects.

#### Business Presence in Micronesia

The M.E. International, Inc. team is in an excellent position to provide maintenance of the PSS E-Net project. As explained in the technical proposal, M.E. Saipan will act as the first response for trouble calls routed through a help desk. M.E. Saipan has 18 years of experience in CNMI and is a company very familiar with the Public School Systems. M.E. Saipan played a major role in the team that implemented the CNMI PSS network for technical assistance and coordination. Additional expertise is maintained at M.E. International headquarters on Guam.

#### Networking

The technical team has experience with planning, designing, installing, testing, and managing large scale and various types of wide and local area networks. The team personnel have directly planned, designed, and implemented networks for multiple applications based on different telecommunication protocols, transmission facilities and services. They have experience with

synchronous optical networking, ATM, frame relay, ISDN, and Ethernet. The M.E. International team has implemented networks based on telco and campus copper wiring, Category 5 voice and data wiring, Microwave (spread spectrum and others), fiber optics (single mode and multimode), and satellite. Additionally, the team consists of specialists working in other areas such as computer application software development and RF Networks.

#### Servers and Information Systems

Collectively, the M.E. International team has experiences with both traditional and modern information systems and servers on many different platforms, including UNIX, LINUX, and NT. In the Information Systems area, the personnel have extensive knowledge and experience with Microsoft and Cisco products and also have considerable expertise with Apple computers and networking.

#### Current Workload/Installation BackLog

M.E. International, Inc. and M.E. Saipan are currently completing several networks throughout Micronesia, Guam and the CNMI. All current projects should be completed by the first quarter of 2003.

In addition, the MEI has partnered with the Telecommunications and Information Policy Group of the University of Hawaii and Dr. Norman Okamura, a telecommunications consultant. The TIPG supports three major networks that use like technologies that are being implemented in Guam: PEACESAT, the PEACESAT Partners Network, and the State of Hawaii Telehealth Access Network.

#### Key Considerations

ME International's professional and technical personnel are highly diverse in their experience and background with individual capabilities that span technical, management, and human resource areas. MEI strives for excellence in our products and services and underscores continuous improvement in all aspects of our operations. Moreover, MEI believes that business partnerships are key in projects of this magnitude and complexity. As such, MEI has partnered with the Telecommunications and Information Policy Group and Dr. Norman Okamura, a telecommunications specialist that has worked on the Erate projects in the Pacific.

As a result of the MEI Team's extensive experience in the field of information technology and telecommunications, several considerations should be given to the successful completion of projects.

MEI has considerable expertise available for a wide range of wiring, cabling, networking, telephone, and other telecommunications systems. The MEI Team has installed and tested large-scale networks, including the full range of coaxial and twisted pair Ethernet, fiber optics, RF microwave, and voice systems. The MEI Team has provided extensive engineering services to design voice and data networks. The MEI Team has provided:

- ATM, IP, Frame Relay, X.25 Networks

- LAN/WAN transmission systems, including, but not limited to:
  - copper, coaxial, MM and SM fiber, RF Microwave
  - and satellite

- Server Based Systems

- NT/2000/XP

- UNIX

- LINUX

- Telephony Systems, including, but not limited to:

- PBX, Key Systems, Voice Mail and others

- Network Architecture / Topology
  - Backbone Switch Technology
  - Line Speed Connectivity
  - LAN / WAN
  - Management System
  - Server
  - Multimedia
  - Internet
  - Protocols
  - Special Systems
- Physical Network Configuration Schematics
  - Switches
  - Interfaces
  - Servers
  - Routers
  - Multiplexers
  - PCs
  - Peripherals
  - High Speed Leased Lines (T1 / ISDN) services
  - Optical networks OC3/OC12

The MEI Team has also implemented telephony and facility reviews in the DoD and has completed major projects in Guam and Hawaii. MEI was the Prime Contractor to develop and implement the Public School System network in CNMI. MEI served as the on-island subcontractor that managed and completed the implementation of the GDOE network technologies. Dr. Norman Okamura served as the Project Manager for the School Wiring and Network integration for the CNMI and American Samoa Erate networks. The MEI Team has unequivocal qualifications to provide the NIMS services to GDOE.

**B. Qualifications of Key Personnel**

ME International proposes a team that has a proven track record with the design, planning, project management, and implementation of large-scale, highly complex networks. The Team has direct and current experience in working with the specific network technologies and protocols that are called for by the GDOE. The Key MEI Team and their respective roles are described as follows:

**Dr. Norman H. Okamura**

Dr. Okamura will provide overall direction to the NIMS Project Team. Dr. Okamura is currently a fully tenured Faculty Specialist in telecommunications policy, planning and technology systems with the University of Hawaii. He is a primary network architect of the American Samoa Erate Network, the State of Hawaii Telehealth Access Network, Digital PEACESAT, the CNMI Partners in Distance Learning Network. He has also served as a technical consultant to the Guam DOE on Erate Network planning.

Dr. Okamura will manage the project team and deal with all major issues regarding the network planning and project implementation. He will exercise his rights as a faculty member and/or take vacation and leave to provide overall guidance to the MEI Team.

Dr. Okamura has extensive experience in the field. Dr. Okamura was the former Administrator of the Hawaii Information and Communication Services Division (ICSD); a Senior Manager in Information Technology with the Honolulu Office of

KPMG Peat Marwick; an Assistant Professor of Urban and Regional Planning who focused on planning information systems; and an Educational Associate with the UH Curriculum Research and Development Group.

Dr. Okamura, as Administrator of the ICSD, managed the largest data center and private telecommunications network in the State of Hawaii. ICSD had a budget of \$31 million, 260+ employees, 24,000 telephone lines (PBX and CO systems), 9,000 data terminal devices. Dr. Okamura, as Administrator, not only had technical responsibilities, but administrative responsibilities for contracting, project management, and financial program accounting. His direct experience in implementing networking in government, voice telephony, large-scale data network, and video teleconferencing systems and networks are central to the project.

Dr. Okamura has served as a Board Member of the National Association of State Information Resource Executives, the National Association of State Telecommunication Directors, the Hawaii Health Systems Corporation, and the Government Technology Conference. Dr. Okamura has traveled and lectured extensively on IT related topics.

**Cheri Wegner, Project Manager**

Ms. Wegner will serve as the day-to-day Project Manager for the NIMS.

Ms. Wegner is the Project Manager for MEI. Ms. Wegner has extensive experience in planning and coordinating large and complex projects. Most recently, Ms. Wegner coordinated the implementation of the GDOE GENET as part of the ISDI implementation team. This involved coordination all installation logistics for network and server equipment. Ms. Wegner also completed the logistics and coordination of the Partners in Distance Learning Network in the Commonwealth of the Northern Marianas Islands.

**Bruce Best**

Mr. Bruce Best will serve as the lead site reviewer and integration consultant.

Mr. Best is a Research Associate with the University of Guam and manager of the UOG PEACESAT station that manages a complex of voice, data, and video networks and technologies. Mr. Best manages ATM, IP routers, satellite, microwave, video teleconferencing, multipoint conference bridges, and many other technologies.

Mr. Best and/or one of his network specialists will conduct a review of the work progress at the site with the GDOE Erate and CIP representatives. Mr. Best will also provide consultation on interconnectivity issue with the WAN.

**Mr. Andy Miral**

Mr. Miral will serve as a site reviewer and integration consultant.

Mr. Miral has installed several thousand CAT5/CAT5E nodes for businesses on Guam. Several of his clients include Clients include: University of Guam, Palau Ministry of Education, FSM Congress in Chuuk and Pohnpei, Guam Visitors Bureau, Dept of Agriculture, Glimpses of Guam and David Advertising. Mr. Miral has worked as a Bench Technician for Sony and has been with MEI since 1985. Mr. Miral has also technically maintain PC and Apple computer systems, and has received and given technical training over the 17 years in the field.

**Ernest Shima**

Mr. Shima will serve as the School Wiring Network Testing Team Leader and Consultant

Mr. Shima has a B.S. in Electrical Engineering from the University of Hawaii. He was the former Division Chief for the Central Services Division of the Hawaii Department of Accounting and General Services; the former Telecommunications Director of the State of Hawaii; and the Assistant Administrator for Systems and Networks Group of the Information and Communication Services Division (ICSD) of the Department of Budget and Finance.

Mr. Shima has just completed the evaluation of all wiring for the Department of Defense in Hawaii under contract with MELE Associates. Mr. Shima has extensive experience in both administrative and technical matters related to government wiring and facilities. Mr. Shima served as the Chief Network Engineer for the Hawaii State Government coaxial cable data and video network and the chief engineer that design and implemented the Hawaii Interactive Television System (HITS); and the team leader for the statewide microwave network of the HAWAIIAN Wide Area Integrated Information Access Network (HAWAIIAN). His extensive experience in RF and video engineering, coupled with his engineering background and experiences with Central Services Division of the Department of Accounting and General Services, makes Mr. Shima the perfect Team Leader for reviewing the School Wiring implementation. Since leaving the ICSD, Mr. Shima has served as a consultant to the PEACESAT Program, the State of Hawaii ICSD, and the Hawaii Health Systems Corporation (HHSC). Mr. Shima was a Col (Ret.) in Combat Communications, Hawaii Air National Guard.

**Ricky Zheng**

Mr. Rickey Zheng is a Telecommunications Specialist with the Telecommunications and Information Policy Group at the University of Hawaii. Mr. Zheng has a BBA in Management Information Systems and his CCNA and his MCSE. He has been an employee of the UH Telecommunications and Information Policy Group for 4 years and specializes in telecommunications.

Certifications: MCSE, Microsoft Certified Systems Engineer; MCSA, Microsoft Certified Systems Administrator; CCNA, Cisco Certified Network Associate; and CompTIA A+ Certified Service Professional.

Mr. Zheng served as the Team Leader for Testing of the School Wiring for the Public School System in the Commonwealth of the Northern Mariana Islands. In this capacity, he and other members conducted a full test of all Cat5 data cabling, tone testing, SM and MM fiber optics at the Main and Intermediate Distribution Frames and all classroom outlets.

**Kaina Lingaton**

Mr. Lingaton is a Network Engineer with the Telecommunications and Information Policy Group. Mr. Lingaton has a BBA in Management Information Systems and has extensive experience with the design, installation and configuration of wide area ATM and IP networks for voice, data and video teleconferencing using Cisco routers, switches, firewalls and ADC ATM Access Concentrators. Mr. Lingaton will provide consultation, and remote assistance and is designated to be on stand-by for resolving escalated network issues. He will serve as an ATM and MCU/Gateway Specialist.

**Lance Shinsato**

Mr. Shinsato will serve as the IP network consultant.

Mr. Shinsato was instrumental in the implementation of the American Samoa E-rate network. He is a valued resource and has implemented Cisco routers, layer 3 switches and Cisco firewalls. He has designed and implemented networks and his skills include project management, procurement, and technical design and operations. Mr. Shinsato will receive his Bachelors of Science in Information and Computer Sciences in Spring of 2003.

Mr. Shinsato is primarily responsible for managing and configuring the University of Hawaii Telecommunications and Information Policy Group (TIPG) servers (Linux, Windows NT/2000/XP). He maintains the State Telehealth Access Network (STAN) and the Pacific Partners Network (PPN) data network (routers and IP configurations). He is also responsible for managing and administering the PPN user account database which spans across numerous countries and jurisdictions located throughout the Pacific Rim region.

- C. Recent Relevant Experiences - MEI is providing a summary of five contracts that are directly related to the NIMS services. More can be supplied if desired. MEI invites GDOE to call the references.

1. Commonwealth of the Northern Marianas Islands - MEI was the Prime Contractor that implemented the Wide Area Network for the Public School System, with the TIPG as partners. The PSS E-rate network uses similar technologies that is being implemented in Guam.

Client Reference: Louise Concepcion, Deputy Commissioner  
(670) 664-3710

2. Commonwealth of the Northern Marianas Islands - MEI Team Leader, Dr. Okamura, served as the Project Manager for the MELE Associates to assist the Commonwealth of the Northern Marianas Islands to implement its school-wiring project. The project involved the same level of project management as required by the GDOE.

Client Reference: Louise Concepcion      Frank Fukunaga  
(670) 664-3710      (808) 375-6953

3. Commonwealth of the Northern Marianas Islands - MEI Team Member, Ricky Zheng, served as the School Wiring Contractor Test leader and tested all voice, data, and video circuits for MELE Associates. MEI Team member Ernest Shima recently completed Phase 1 of the DOD telephony review in Hawaii, and has been retained to continue the work on the project.

Client Reference: Frank Fukunaga  
(808) 375-6953

4. MEI/ISDI - MEI and TIPG served as the subcontractors to the Inter-island Systems Development and Integration for the implementation of the GDOE GENET Wide Area Network.

Client Reference: Ms. Eloise Sanchez, Associate Superintendent  
(671) 475-0444

5. American Samoa – The TIPG Team has planned, designed and implemented, as subcontractors to the ISDI, an Erate and Distance Education, Learning, and Telehealth Applications (DELTA) Network in American Samoa. The Erate network connects 45 public and private schools. The DELTA Network connects the American Samoa Community College, Executive Office Building, LBJ Tropical Medical Center, and American Samoa Power Authority to a private network. This included internal and network integration.

Client Reference: Ms. Andra Samoa, DELTA Coordinator  
(684) 644-2772

## **VI. Summary**

ME International is uniquely qualified to provide Network Installation Management Support Services for the Guam Department of Education. MEI not only has expertise and experience in project management, cabling, voice/data/video networks, and the types of networks and technologies that the GDOE is seeking to implement, MEI has a team that is aware of the issues in implementing projects in the GDOE and has a proven track record. MEI's credentials to serve as the NIMS are superior in classification.

The MEI Team has:

- Extensive experience in project management, including Wide Area Networks, Local Area Networks, and Cabling.
- Direct and current experience with the type of network design and network technologies to be used by the GDOE.
- Success in completing major ATM and IP data and video telecommunications networks in American Samoa, Guam, Hawaii, and the United States that are similar to the Erate network in planned by the GDOE.
- Success in completing major cabling and wireless projects.
- Extensive knowledge and understanding of the Erate network issues, including transmission, power, operational, and equipment problems.
- A thorough technical and operational knowledge of the networks and technologies through its ongoing management and maintenance of networks that are identical to those being used by the GDOE.
- A Team that is committed to ensuring that the network functions and meets the needs of the GDOE.

Once more, MEI and Team look forward to working with the GDOE on this exciting project that will interconnect all public schools in Guam; provide Internet access to students, faculty, and administrators; provide telephones for the schools; and, establish a distance learning program infrastructure.